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NOTES ON GEOGRAPHICAL EDUCATION.

BY

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GEOGRAPHICAL MEMOIRS FOR TEACHERS' USES.—The New Jersey Geological Survey published several years ago a special memoir on the Physical Geography of New Jersey, for the use of teachers in the State. This memoir was an exhaustive and detailed study of the physical features of New Jersey, perhaps too detailed for the uses of general teachers, but yet on the right lines. It furthermore emphasized through its appearance the increased public interest in good geography teaching. Another similar report was published by the State of Missouri (see this Bulletin, XXIX, 2), and proved very successful.

The most recent instance of State interest in geography teaching is in the case of Wisconsin, where the Geological and Natural History Survey has established an Educational Series of Bulletins, of which the first has appeared this year. This Bulletin is by Professor Rollin D. Salisbury, of the University of Chicago, and Mr. W. W. Atwood, of the Chicago Institute, and is devoted to the geography of the region about Devil's Lake and The Dalles of the Wisconsin, with some notes on its surface geology. The Bulletin is a handsomely illustrated and well-printed large octavo volume of 150 pages, divided into five chapters, as follows: General Geographic Features; Outline of the History of the Rock Formations which show themselves at the Surface; General Outline of Rain and River Erosion; Erosion and the Development of Striking Scenic Features; The Glacial Period. All the chapters deal especially with the region in question except III, in which the development of streams is considered in detail, with illustration from Wisconsin. This chapter is a very good and readable summary of the principles of planation, and is a good reference for teachers outside of Wisconsin.

Valuable and stimulating as the Bulletin is, it is to be criticised, as was its predecessor in New Jersey from Professor Salisbury's pen, as available for the specially-trained teacher only. The material is too technical for the teacher without special training in geography, and cannot, except in its illustrations, be of great assistance to a large number of teachers. It is to be hoped that future attempts

along this line may be more generally usable, without losing any scientific value through simplification and popularization.

THE SECONDARY SCHOOL COURSE AT THE CHICAGO INSTITUTE.—The courses of study in all branches of the Chicago Institute are particularly interesting from the standpoint of geography, owing to the amount of attention that is given to the earth sciences in the secondary course, as well as to the almost unique plan for elementary school work. In each of the four years of the high school there is a year course in some earth science, so that the course as a whole for the twelve years of the elementary and secondary school follows one unified, progressive plan. It is evident, however, from a study of the outlines thus far published, that the other groups of sciences do not receive an equally strong or just amount of attention. The plans for the elementary, secondary, and pedagogic schools will appear monthly in the *Course of Study*, Chicago Institute, Academic and Pedagogic, for sale by the Institute.

In the elementary course very emphatic attention is given to physical geography, so that a good foundation is laid for scientific work in the high school. The first year, called ninth grade, is devoted to the study of the Physiography of the Land, including particularly the physiographic processes and their results as seen about Chicago and in other parts of the world. The work is largely based on field trips about Chicago, and is more advanced in its point of view than would be advocated by many for a course in the last year of the high school.

The second year is devoted to meteorology and to palæontology. The meteorology, so far as outlined, will be based largely on observational work about Chicago, and opens with considerations of the constituents and distribution of the atmosphere, followed by temperature and pressure.

The third-year course deals with geology, particular emphasis being devoted to the historical aspects. The work opens with a study of rocks and rock structures, followed by a study of the development of the leading physiographic regions of the eastern United States. This will be in turn followed, according to announcement, by historical geology and a study of continental evolution.

In the fourth-year course, entitled anthropogeography, it is intended to summarize and apply the principles of the first three years, as seen in the study of nations and peoples in relation to their environment.

In the work as outlined for each month references are given to

the best text-books and sources of collateral reading, though it should be noted that the books are not always accurately listed as to title, etc. The plans for the year, when complete, will be of great value to all teachers, for the whole field of earth sciences will be so presented that any teacher can see it as a whole with ease.

The course as presented is widely at variance with the possibilities in most secondary schools, and will undoubtedly meet with much adverse criticism. The experiment will be watched with great interest by all concerned in secondary work, because of the inkling that it ought to give as to the abilities of pupils in the first years of the secondary school to deal satisfactorily with certain aspects of the earth sciences, that many teachers believe have but small reason for being studied *in extenso* in high schools.

GEOGRAPHICAL EDUCATION AT THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, 1900.—The British Association for the Advancement of Science devotes an increasing amount of attention each year to problems in education. In fact, the problems have become so important in the work of the Association that all the sections have petitioned the Council to establish an educational section. The geographical section has long given a dignified place to educational papers by setting aside one session for their presentation. In 1900 two papers were given in this session, and elicited an interesting discussion.

The first paper was devoted to Progress of Geographical Instruction in Elementary Schools, particularly as evidenced by the success of the efforts in the West Riding of Yorkshire in carrying out the reforms recommended by the Royal Geographical Society some years ago. The principal advances announced by the author, Mr. T. G. Rooper, an inspector of schools, are well summarized by the following extract from the report given in the *Geographical Journal* for October:

The chief reforms consisted in the intelligent study of local geography through local maps and models, and in object lessons which explained the principles of physical geography. The reliefs and models led up to the art of reading maps and to the demand for better maps. Such lessons were an excellent introduction to reasoning, and proved how little there was that was purely arbitrary even in the sites of towns and villages in the neighbourhood, much less in the industries which were carried on in them. The necessity for good wall-maps was now apparent, and correctly drawn details were demanded in place of vague and inaccurate sketches. The symbols on the wall-map were vague and meaningless unless a context and significance were given them by previous practice in the building up of local plans and maps. The scholar had to be taught with care how to translate the symbols of the

wall-map back into the forms of nature which they, however inadequately, represented. The value of graphic work in teaching geography was insisted on. The mere copying and coloring maps of various parts of the world was rather an exercise in drawing than in geography. Each map should be drawn to serve some definite purpose. It should disentangle from a complex whole some particular part which analysis brought to light and illustrate it with precision and simplicity. Further, the sketch-maps should proceed from simpler studies to more complex, and no map should be made of a country as a whole until the leading features had been dealt with separately, and thus the "constructive" method of teaching geography was introduced. In conclusion, the formation of local geographical societies for educational purposes was recommended, and an account was given of the formation and working of the Southampton Geographical Society.

The second paper, by Mr. E. G. Wethey, was devoted to the teaching of commercial geography, which has very evidently become more rationalized in Great Britain than in the United States, in consequence of the unremitting efforts of a few leaders in the field—like Mr. Chisholm, Dr. Mill, and Dr. Herbertson. The author described his methods in detail, and exhibited a large series of original lantern-slides devoted to this topic.

PHYSICAL GEOGRAPHY IN THE HIGH SCHOOL.—Two recent papers from the pen of Professor W. M. Davis, of Harvard University,* deserve attentive reading by all interested in geography in the secondary schools.

The first paper is devoted to a discussion of the logical scope of secondary school physiography, to a consideration of the most modern and most culture-bearing point of view, and to an outline of the topics that may, to the author's mind, be rightfully included in the course. The second article treats of "practical exercises," including suggestions for laboratory work in reference to the topics selected in the first article, and closes with a statement of the present and future place of geography in the school curriculum.

Professor Davis supports strongly the scope of secondary school physical geography as outlined by the sub-committee of the Committee of College Entrance Requirements† and approved and published by the Association as "the physical environment of men," under which the principal headings are "the earth as a globe, the atmosphere, the oceans, and the lands."

Considering the point of view that obtains in reference to physical geography, the author shows how the subject has profited from

* Physical Geography in the High School, *School Review*, Vol. 8, Nos. 7 and 8, September and October, 1900, pp. 388-404; 449-456.

† *Journal of School Geography*, Vol. II, September, 1898, pp. 248-262. *Proceedings National Educational Association*, 1898, pp. 973-984; 1899, pp. 780-799.

the application of the theory of evolution—primarily contributed from geology and biology—and then shows that modern physical geography differs from the old, especially in two phases; first, that in the earlier books, explanation was offered only for the more active phenomena, such as winds, currents and volcanoes; geographical features that were not evidently the result of active processes were merely described. In the newer books the attempt is made to extend explanation uniformly all over the field of study;

and secondly, that every item is presented

as an element of the environment in which the life of the earth has been developed, and by which it is still conditioned at every turn. This second test of modernized treatment is as valuable as the first.

Continuing, the author remarks in reference to the increased value that comes from such a point of view:

When the applied treatment of the subject is understood it will be recognized that plants, animals, and man should not be given special chapters for themselves in the modern limitation of the contents of physical geography, for the very sufficient reason that mention of them is distributed all through the subject. Gravity determines the "standing" position of plants and animals. Latitude and longitude should be taught as devices by which man takes advantage of the form and rotation of the earth to determine his position on it, not as abstract mathematical problems. The chapters on temperature and moisture give opportunity for mentioning many appropriate consequences as to the distribution of plants. Under the description of the shallow border of the oceans, where the waters lie upon the so-called "coastal shelf," proper opportunity is found for referring to these waters as the habitat of food fishes, and therefore as valuable fishing grounds. A general account of the larger land-forms leads up to the control exerted by continents, mountains (especially the Himalaya) and deserts (especially the Sahara) upon the distribution of man and animals. Under mountains reference is made to their significance as refuges for conquered tribes or peoples. Avalanches and landslides are not finished with a description and explanation of inorganic phenomena alone; they are also presented as dangers to which people living in mountain valleys are subjected. Here we may well introduce Guyot's eloquent sentence as a practical guide in our work: "To describe without rising to the causes or descending to the consequences is no more science than merely and simply to relate a fact of which one has been a witness." The phrase "causes and consequences" thus comes to serve as a touchstone by which both the explanatory and the applied treatment of the subject may be easily tested.

With such an understanding of the field, special chapters on man, animals, and plants are not logical or necessary, however much conservatism may demand their inclusion in a text-book from the standpoint of sales, and it is to be noted that the author has followed this plan in his own well-known text-book for secondary schools. Similarly, the author does not believe in including areal geography in a course that is primarily given from the standpoint of causal relations rather than of space.

Following these introductory paragraphs, the author outlines in some detail his views of the topics rightfully to be included under

the headings—The Atmosphere, The Ocean, Activities of the Lands, Features of the Lands, The Waste of the Land, Climatic Control of Land-Forms.

In the second paper, the contents of which have been sufficiently noted above, the author closes with the following “belief” in reference to the place of general physical geography in the school curriculum:

My belief is that the subject will not remain very long in the better high schools, and that, as it descends into the grammar schools, its place will be taken by elective courses near the end of the high-school course. The reasons for this belief are as follows: First, a number of good grammar schools are already teaching, under “geography” or “physical geography” much material recommended in the National Educational Association report as appropriate for the first year of the high school. Second, the rapid improvement of the grammar-school course in general geography, by omitting much old memoriter work and compressing the valuable remainder into shorter time, is actually providing a place for physical geography in the last year of the grades. Such a change must come to be generally approved when it is seen how large a part of elementary physical geography is within reach of the grammar schools, and when it is remembered that every study thus added to the lower grades reaches a vastly greater number of school children than it would reach in the high school. Still more important is the third and final reason, namely, a growing belief that the existing method of teaching geography in the grades is not rational enough to stimulate as fully as it should the mental activity of school children; the remnants of traditional methods in geography by which young intelligence is often hampered should therefore be replaced by an increasing attention to explanatory and practical methods, such as the subject of physical geography affords in an admirable way. For the present, the establishment of a good course in physical geography in the first high-school year is probably the best general plan; but it is not likely that the subject will hold a permanent place there. Ten years hence, elementary physical geography will have found its way into many grammar schools; twenty or thirty years hence, the high school that has physical geography in its first year and not in its third or fourth will be considered old-fashioned.

THE SIZE OF ELEMENTARY GEOGRAPHY TEXTS.—The recent appearance of the Tarr and McMurry series of geographies in octavo form marks the first American success in publishing an elementary geography smaller than quarto size, and has aroused much interested speculation and comment. Other publishers have considered the possibility of an octavo series, and have feared that the strength of public opinion did not warrant the experiment. The objections to the reduction in size have been varied, and some of them curious, the greatest objection being that it would be impossible to print the necessary maps in octavo size. Though the recent attempt has not wholly succeeded in reference to the maps, it has shown that good and workable maps can be printed in octavo size. Perthes' *Taschen-Atlas* (Gotha), however, presents an ideal in refer-

ence to octavo maps toward which American publishers should push as rapidly as possible. Perhaps the most curious objection to the decrease of size, and one that has great weight in certain quarters, is that pupils no longer have any receptacle in which to carry loose papers between school and home.

While this attempt has been in progress in America, it is very interesting to note that in England there is an equally strong prejudice against increasing the size from octavo to quarto, and combining the atlas with the text. The English adaptation of Frye's Geography, published as the *Illustrated School Geography*, by Andrew J. Herbertson, was the first large-sized school geography in England, and was severely criticised as regards size and weight. Not only in England but in France and Germany the most used texts are of small size. Kirchhoff's *Erkunde*, in two volumes, is large octavo, but contains no atlas, the student being expected to use some school atlas like that noted above. Foncin's *Géographie*, in four volumes, though not octavo, is very much smaller and of less weight than our school geographies; the maps therein are cheaply printed, and are not poor because of the size of the book. The smallest set of school geographies known to the writer is that in use in the schools of New Zealand—a set of five, each approximately 7 x 5 inches, and the largest containing but 100 pages. The maps in this series are black and white outline maps entirely.

Considering the widespread use of small school geographies the delay in their appearance in this country is absurd. In the course of time, with greater experience in map-making, it is to be expected that the old-fashioned geography will be a thing of the past, as it deserves to be.